

REMARKS

Claims 1-8, 22-27 and 29-33 are now pending. Claims 1 and 22 are currently amended. Claims 9-21 and 28 are canceled. No new matter has been added by any of the claim amendments. Amendment and cancellation of certain claims should not be construed as a dedication to the public of any of the subject matter of the claims as previously presented. Applicants respectfully request reexamination and reconsideration of all pending claims.

Claim Objections

Claim 22 stands objected to because of the following informalities: “the arch expanded” should read --the arch expander--. Claim 22 has been amended to correct this informality.

Claims Rejected Under 35 U.S.C. § 112

Claims 1-8 and 22-33 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The examiner contends that the specification does not describe the step of “providing an electronically viewable treatment plan by an appliance provider based on the at least one digital scan, the treatment plan including the use of a custom fit palatal arch expander” and accordingly the steps utilizing the plan. Applicants respectfully traverse this rejection.

Starting on page 9, line 27, the specification of the present application describes compressing teeth model data “before transmission to the treating professional or website.” Once the compressed data is received, the three-dimensional images it represents are reconstructed. On page 10, lines 14-20, the specification further describes how the treating professional can view and/or edit the treatment plan. “At any time, the treatment professional may review the treatment plan and adjust or approve the same. The professional can also invite a consultant such as an orthodontist to review the images” (on the website or workspace). Page 9, lines 17-19. Thus, an electronically viewable treatment plan is provided to the treating professional and/or consultant.

The above electronically viewable treatment plan is provided “by an appliance provider”, such as Align Technology, Inc., as described on page 10, lines 11-13 and 21-22. The

specification also describes, on page 10, lines 22-23, that the treatment plan proceeds after the appliance provider scans the teeth impressions sent to it by the treating professional. Thus, the treatment plan is “based on at least one digital scan”.

The present application is directed to the design and fabrication of a custom fit palatal arch expander, as outlined on page 6, lines 6-15, and in Fig. 1, for example. Therefore, the above treatment plan described by the specification clearly includes “the use of a custom fit palatal arch expander”. Accordingly, contrary to the examiner’s §112 rejection, the specification does in fact fully describe the step of “providing an electronically viewable treatment plan by an appliance provider based on the at least one digital scan, the treatment plan including the use of a custom fit palatal arch expander” and accordingly the steps utilizing the plan. For these reasons, applicants respectfully submit that this §112 rejection is improper and must be withdrawn.

Claims Rejected Under 35 U.S.C. § 103(a)

Claims 1-3, 6-8 and 22-33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Truax et al. (U.S. Patent No. 5,242,304) in view of Pavloskaia et al. (U.S. Patent No. 6,463,344). Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Truax et al. in view of Pavloskaia et al. and further in view of Williams. Claim 5 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Truax et al. in view of Pavloskaia et al. and further in view of Tepper. Applicants respectfully traverse these rejections.

As amended, independent claim 1 is directed to a method for making a custom-fit palatal arch expander for a patient. The method involves acquiring at least one digital scan representing at least a portion of upper teeth and a palate of the patient, providing an electronically viewable treatment plan by an appliance provider based on the at least one digital scan, the treatment plan including the use of a custom fit palatal arch expander, making the electronically viewable treatment plan available to a treating professional for review along with an automated teeth collision detection tool to aid the treating professional in any adjustment of the electronically viewable treatment plan, fabricating a first portion of the custom-fit palatal arch expander, fabricating a second portion of the arch expander, and coupling an expansion member between the first and second portions. The first portion of the expander has a plurality of cavities for

receiving posterior teeth on one side of the palate and a palatal portion extending toward a centerline of the palate. Similarly, the second portion of the expander has a plurality of cavities for receiving posterior teeth on the opposite side of the palate and a palatal portion extending toward a centerline of the palate. Each of the cavities of the first and second portions is specifically configured to fit over one of the posterior teeth of the patient, based on the shapes of the posterior teeth as represented in the digital scan(s). Independent claim 22, directed to a method for expanding a palatal arch of a patient, includes similar limitations. Support for the amendments to independent claims 1 and 22 can be found in the original application as filed, for example on page 10, lines 21-24.

The present invention, as defined by independent claims 1 and 22, is neither disclosed nor suggested by the cited art, either taken alone or in combination. Furthermore, since claims 2-8, 23-27 and 29-33 variously depend from claims 1 and 22, they are also in condition for allowance for at least the same reasons provided above.

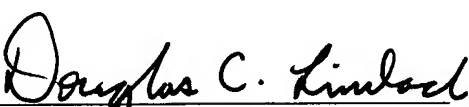
CONCLUSION

In view of the foregoing, Applicants believe that all pending claims are in condition for allowance and respectfully request a formal Notice of Allowance at an early date. If for any reason the Examiner believes that a telephone conference would expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned at (650) 328-8500.

Please charge any required fees to Deposit Account No.: 50-2638.

Respectfully submitted,
GREENBERG TRAURIG LLP

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Douglas C. Limbach,
Reg. No. 35,249

CUSTOMER NUMBER 56188
1900 University Avenue, Fifth Floor
East Palo Alto, CA 94303
Phone: (650) 328-8500
Fax: (650) 328-8508
E-Mail: limbachd@gtlaw.com